

What is claimed is:

1. An inhaler comprising:
  - a sealed reservoir including a dispensing port;
  - a channel communicating with the dispensing port and including a pressure
  - 5 relief port;
  - a conduit providing fluid communication between an interior of the sealed reservoir and the pressure relief port of the channel;
  - a cup assembly movably received in the channel and including,
    - a recess adapted to receive medicament when aligned with the
    - 10 dispensing port,
    - a first sealing surface adapted to seal the dispensing port when the recess is unaligned with the dispensing port, and
    - a second sealing surface adapted to sealing the pressure relief port when the recess is aligned with the dispensing port and unseal the pressure relief port
    - 15 when the recess is unaligned with the dispensing port.
2. An inhaler according to claim 1, wherein the cup assembly includes a sealing spring biasing the first sealing surface against the reservoir.
3. An inhaler according to claim 1, wherein the reservoir includes a collapsible bellows adapted to increase pressure within the interior of the reservoir upon
- 20 being collapsed, when the pressure relief port is sealed.
4. An inhaler according to claim 1, wherein the cup assembly includes a cup received in a cup sled movable within the channel, the cup defining the recess and the first sealing surface, and the sled defining the second sealing surface.
5. An inhaler according to claim 4, wherein the sled defines an indentation
- 25 adapted to align with and unseal the pressure relief port when the first sealing surface is aligned with the dispenser port.

6. An inhaler according to claim 4, wherein the cup assembly includes a sealing spring between the cup and the cup sled, biasing the first sealing surface of the cup against the reservoir.

30 7. An inhaler according to claim 1, wherein the channel extends linearly and the cup assembly is movable in opposing directions within the channel.

8. An inhaler according to claim 1, further comprising:  
a cup spring biasing the cup assembly along the channel; and  
a yoke movable between at least two positions and including a ratchet  
35 engaging the cup assembly and preventing movement of the cup assembly when the yoke is in one of the positions and allowing movement of the cup when the yoke is in another of the positions.

9. An inhaler according to claim 8, wherein the cup spring biases the cup assembly to a position wherein the recess is unaligned with the dispensing port of the  
40 reservoir.

10. An inhaler according to claim 9, wherein the yoke further includes a push bar adapted to align the recess of the cup assembly with the dispensing port upon movement of the yoke to one of the positions.

11. An inhaler according to claim 9, further comprising:  
45 at least one movable cam including at least two successive cam surfaces;  
and

a spring biasing the yoke against the cam such that movement of the cam causes the yoke to successively engage the cam surfaces and move the yoke between the at least two positions of the yoke.

50 12. An inhaler according to claim 11, wherein the cam includes three successive cam surfaces for moving the yoke between three positions, wherein the ratchet is adapted to hold the recess unaligned with the dispensing port when the yoke is in a first and a second of the three positions, and allow movement of the cup assembly when the yoke is in a third of the three positions.

55           13.     An inhaler according to claim 12, further comprising a collapsible bellows adapted to increase pressure within the interior of the reservoir upon being collapsed, and wherein the yoke is arranged to collapse the bellows when the yoke is in the first and the second positions.

60           14.     An inhaler according to claim 11, further comprising:  
a mouthpiece for patient inhalation; and  
a cover movable to open and close the mouthpiece, wherein the at least one cam is secured to the cover for movement therewith, whereby opening and closing the mouthpiece causes the yoke to move between the three positions of the yoke.

15.     An inhaler according to claim 14, wherein the cam is movable by rotation.

65           16.     An inhaler according to claim 1, wherein the reservoir includes a volume of dry powdered medicament.

70           17.     An inhaler according to claim 1, further comprising:  
a pawl movable along a predetermined path upon movement of the recess of the cup assembly from the dispensing port; and  
a dose counter including,  
a bobbin,  
a rotatable spool,  
a rolled ribbon received on the bobbin and rotatable about an axis of the bobbin, the ribbon having indicia thereon successively extending between a first end of the ribbon secured to the spool and a second end of the ribbon positioned on the bobbin,  
75     and  
teeth extending radially outwardly from the spool into the predetermined path of the pawl so that the spool is rotated by the pawl and the ribbon is advanced onto the spool during the metering of a dose.